

### Abstract

A catalyst support including a body having a surface and a coating bonded to the surface is disclosed. The coating includes fissures exhibiting a total fissure length of at least about 500 m/m<sup>2</sup> and an adhesive tensile strength of at least about 500 N/m<sup>2</sup>. Using a catalyst support body to serve in the catalytic reaction of reactants, for example, in a partial oxidation of propene and acrolein to acrolein and acrylic acid, is disclosed. Also disclosed are processes for the: (a) production of a coating for a catalyst support body, (b) preparation of an organic molecule containing at least one double bond and oxygen, (c) production of a water-absorbing polymer, and (d) production of a water-absorbing hygiene article, and chemical products or the use of (meth)acrylic acid in chemical products.